IN THE CLAIMS:

Please CANCEL claims 50-60 without prejudice to or disclaimer of the recited subject matter.

Please AMEND claims 37, 38, 40, 46, 47 and 49, and ADD new claims 61-71, as follows. For the Examiner's convenience, all claims currently pending in this application have been reproduced below:

1-36. (Cancelled)

37. (Currently Amended) A position detection apparatus for detecting a position of a mark on an object, said apparatus comprising:

a camera which captures an image of the mark;

an extraction section which extracts ~~a plurality of edge positions~~ an edge position of the mark based on a signal derived from the image of the mark, ~~each of the edge positions being associated with a~~ the edge position being extracted with respect to each combination of a direction and a polarity of the signal; and

a determination section which determines a position of the mark, by comparing ~~each of the plurality of extracted edge positions~~ the edge position, with respect to each combination, with a corresponding ~~one of templates prepared for the respective combinations~~ template prepared with respect to each combination.

38. (Currently Amended) An apparatus according to claim 37, further comprising a control section which changes a parameter used by at least one of said extraction section, and said determination section based on a result of the comparing by said determination section.

39. (Previously Presented) An apparatus according to claim 38, wherein the parameter changed by said control section is stored in a memory and used as a base for processing to be executed later.

40. (Currently Amended) An apparatus according to claim 37, wherein said determination section performs the comparing by evaluating a degree of matching between the ~~plurality of edge positions and the templates~~ edge position and the template.

41. (Previously Presented) An apparatus according to claim 40, wherein said determination section determines the position of the mark as a center position of the template based on the degree of matching.

42. (Previously Presented) An apparatus according to claim 37, wherein said determination section performs the comparing using a correlation method.

43. (Previously Presented) An apparatus according to claim 37, wherein said extraction section obtains the signal by differentiating a signal of the image.

44. (Previously Presented) An apparatus according to claim 43, wherein the polarity is a sign of the differential signal.

45. (Previously Presented) An apparatus according to claim 37, wherein said extraction section obtains the signal along each of at least two directions in the image.

46. (Currently Amended) An apparatus according to claim 37, wherein the template ~~for each of the combinations~~ , with respect to each combination, includes a plurality of positions of interest.

47. (Currently Amended) An apparatus according to claim 37, wherein a parameter used for at least one of a noise removal processing for the image and a correction of the edge position is changed based on ~~the~~ a result of the comparing by said determination section.

48. (Previously Presented) An apparatus according to claim 37, wherein said camera captures the image under a dark field illumination.

49. (Currently Amended) A position detection method of detecting a position of a mark on an object, said method comprising ~~the~~ steps of:

capturing an image of the mark using a camera;

extracting ~~a plurality of edge positions~~ an edge position of the mark ~~from~~ based on a signal derived from the image of the mark, ~~each of the edge positions being associated with a~~ the edge position being extracted with respect to each combination of a direction and a polarity of the signal; and

determining a position of the mark by comparing ~~each of the plurality of edge positions~~ the edge position, with respect to each combination, with a corresponding ~~one of templates prepared for the respective combinations~~ template prepared with respect to each combination.

50-60. (Canceled)

61. (New) A position detection apparatus for detecting a position of a mark on an object, said apparatus comprising:

a camera which captures an image of the mark;

an extraction section which extracts an edge position of the mark based on the image of the mark;

a determination section which determines a position of the mark by comparing the edge position with a template; and

a control section which changes a parameter used by at least one of said extraction section and said determination section, based on a result of the comparing by said determination section.

62. (New) An apparatus according to claim 61, wherein the parameter changed by said control section is stored in a memory and used as a base for processing to be executed later.

63. (New) An apparatus according to claim 61, wherein said determination section performs the comparing by evaluating a degree of matching between the edge position and the template.

64. (New) An apparatus according to claim 63, wherein said determination section determines the position of the mark as a center position of the template based on the degree of matching.

65. (New) An apparatus according to claim 61, wherein said determination section performs the comparing using a correlation method.

66. (New) An apparatus according to claim 61, wherein said extraction section extracts the edge position by differentiating a signal of the image.

67. (New) An apparatus according to claim 61, wherein said extraction section differentiates the signal along each of at least two directions.

68. (New) An apparatus according to claim 61, wherein the template includes a plurality of positions of interest.

69. (New) An apparatus according to claim 61, wherein a parameter used for at least one of a noise removal processing for the image and a correction of the edge position is changed based on a result of the comparing by said determination section.

70. (New) An apparatus according to claim 61, wherein said camera captures the image under a dark field illumination.

71. (New) A position detection method of detecting a position of a mark on an object, said method comprising steps of:

capturing an image of the mark using a camera;

extracting an edge position of the mark based on the image of the mark;

determining a position of the mark by comparing the edge position with a template; and

changing a parameter used in at least one of said extraction step and said determination step, based on a result of the comparing in said determining step.